station's list in accordance with said determined forward links quality metrics and said determined forward link de-rating value.[[.]] The quality metric of a forward link for each sector in the remote station's list is determined by measuring a signal-to-noise-and-interference-ratio of the forward link. The forward link de-rating value for at least one sector in the remote station's list is determined by ascertaining at the remote station a first signal value at a position in a first channel of the forward link for the at least one sector in the remote station's list, processing at the remote station said ascertained first signal value for the at least one sector in the remote station's list, and determining at the remote station the forward link de-rating value in accordance with said processed first signal value for the at least one sector in the remote station's list. The communication between the remote station and one sector from the sectors in the remote station's list is directed by de-rating said determined forward link quality metrics in accordance with said determined forward link de-rating value, assigning credits to each sector in the remote station's list except the sector currently serving the remote station in accordance with said de-rated forward link quality metric and directing communication between the remote station and one sector from the sectors in the remote station's list in accordance with said assigned credits.

On page 9, paragraph [1038], with the following paragraph:

The term soft ~~hand-off~~ handoff as used herein means a communication between a subscriber station and two or more sectors, wherein each sector belongs to a different cell. In the context of IS-95 standard, the reverse link communication is received by both sectors, and the forward link communication is simultaneously carried on the two or more sectors' forward links. In the context of the IS-856 standard, data transmission on the forward link is non-simultaneously carried out between one of the two or more sectors and the AT.

On page ~~10~~ 9, paragraph [1039], with the following paragraph: SB 1-11-07

The term softer ~~hand-off~~ handoff as used herein means a communication between a subscriber station and two or more sectors, wherein each sector belongs to the same cell. In the context of the IS-95 standard, the reverse link communication is received by both sectors, and the forward link communication is simultaneously carried on one of the two or more sectors'

On page 15, paragraph [1060], with the following paragraph:

In accordance with one embodiment, a re-pointing decision is made by an AT in accordance with conditions of a forward link and a reverse link. As described above, the AT determines a forward link quality metric directly, e.g., by measuring the forward link SINR. Similarly, a reverse link quality metric [[of]] may comprise, e.g., a reverse link SINR, a bit-error-rate and/or a packet-error-rate or a DRC erasure rate.

On page ~~16~~ 15, paragraph [1061], with the following paragraph: SB 1-11-07

As discussed, the AT identifies a serving sector of a particular sector and transmits a DRC message on a DRC channel on a reverse link. The reverse link carrying the DRC messages between the AT and the serving sector is subject to various factors that change characteristics of a communication channel through which the DRC messages travel. In wireless communication systems, these factors comprise, but are not limited to: fading, noise, interference from other terminals, and other factors known to one of ordinary skills in the art. The DRC message is protected against the changing characteristics of the communication channel by various methods, e.g., message length selection, encoding, symbol repetition, interleaving, transmission power, and other methods know to one of ordinary skill in the art. However, these methods impose performance penalties, e.g., increased overhead, thus, decreased throughput, increased power consumption, increased peak-to-average power, increased power amplifier back-off, more expensive power amplifiers, and other penalties known to one skilled in the art. Therefore, an engineering compromise between a reliability of message delivery and an amount of overhead must be made. Consequently, the conditions of the communication channel can degrade to the point at which the serving sector possibly cannot decode (erases) some of the DRC messages. Therefore, the DRC erasure rate is directly related to the conditions affecting the reverse link, and the DRC erasure rate is a good quality metric of the reverse link. A method and an apparatus utilizing the DRC erasure rate are disclosed in detail in ~~co-pending~~ Application No. 09/892,378, now U.S. Patent No. 6,757,520 issued June 29, 2004, entitled "METHOD AND APPARATUS FOR SELECTING A SERVING SECTOR IN A DATA COMMUNICATION SYSTEM", filed June 26, 2001, and assigned to the assignee of the present invention.

Beginning on page 17, paragraph [1066], with the following paragraph:

On the reverse link, each transmitting AT acts as a source of interference to all other ATs in the communication system. To minimize interference on the reverse link and maximize capacity, transmit power of each AT is controlled by three power control loops (Open Loop, Closed Loop and Outer Loop). In the exemplary embodiment, the power control loops are similar to that of the CDMA system disclosed in detail in U.S. Patent No. 5,056,109, entitled "METHOD AND APPARATUS FOR CONTROLLING TRANSMISSION POWER IN A CDMA CELLULAR MOBILE TELEPHONE SYSTEM," and in ~~co-pending~~ Application No. 09/615,355, now U.S. Patent No. 6,876,866 issued April 5, 2005, entitled "MULTI-STATE POWER CONTROL MECHANISM FOR A WIRELESS COMMUNICATION SYSTEM," filed July 13, 2000, both assigned to the assignee of the present invention. Other power control mechanism can also be contemplated and are within the scope of the present invention. In the present invention, each sector receiving reverse link from particular ATs transmits RPC bits to each of such ATs on a power control channel of the sector's forward link. In the exemplary embodiment, the power control channel is similar to that of the HDR system disclosed in detail in the IS-856 standard. Other power control channels can also be contemplated and are within the scope of the present invention. In the exemplary embodiment, the power control channel comprises up to 64 orthogonal channels, which are spread with 16-chip Walsh covers. Each [[Walsh]] power-channel transmits one RPC bit at periodic intervals. Each active AT is assigned an RPC index which defines the Walsh cover and QPSK modulation phase (e.g. in-phase or quadrature) for transmission of the RPC bit stream destined for that AT. Because the RPC bits correlate to a condition of the reverse link as determined by a sector, the RPC bits are used by the AT to estimate the reverse link quality metric.

On page ~~19~~ 18, paragraph [1069], with the following paragraph: SB 1-11-07

The processed (filtered) RPC estimate (mean) is used to estimate a DRC erasure rate. The relationship between the filtered RPC mean and the DRC erasure rate is very complex and depends on several variables, e.g., type of channel (Additive White Gaussian Noise (AWGN), Rayleigh, Rician), frequency selective fading, doppler rate, shadowing, and other variables known to one of ordinary skills in the art. Therefore, an engineering compromise between an

actual relationship and an implementation approximation must be made. For example, curve C in FIG. 3 illustrates a typical relationship between a filtered RPC mean and a DRC erasure rate for a slow fading communication channel, as determined by a measurement. Curves A1, A2, and A3 illustrate embodiments of approximation that have been determined to be a good compromise between the actual relationship and implementation approximation. In accordance with another embodiment, illustrated in FIG. 4, the relationship between filtered RPC mean and a DRC erasure rate is approximated by a step function A4 with a step at an RPC threshold T_RPC. In accordance with one embodiment, the T_RPC is selected so that if the filtered RPC mean from a particular sector is greater than the T_RPC, the DRC erasure rate is at levels that prevent the AT from receiving satisfactory service on the forward link in terms of delays and throughput. One of ordinary skills in the art understands that satisfactory service is application dependent. Therefore, service resulting in outages may be intolerable, [[in]] e.g., in real-time applications, although the outages may be tolerable in non-real time applications, e.g., ftp. In accordance with one embodiment, the default RPC threshold T_RPC equals to 0.95, as determined by simulation, laboratory testing, measurements, and other means known to one skilled in the art.

On page ~~21~~ 20, paragraph [1079], with the following paragraph: SB 1-11-07

In step **514**, the inquiry is made whether the sector identified by the variable Count is the current serving sector as re-pointed to in step [[**518**]] **508**. If the test is positive, the method continues in step **518**, otherwise, the method continues in step **516**.

On page ~~23~~ 22, paragraph [1096], with the following paragraph: SB 1-11-07

In step **624**, a value of the variable Cand identified by the variable Count is set to 1 and the value of the variable ~~Cand_NS~~ NS_COUNT is incremented by 1. The method continues in step **628**.

On page 24, paragraph [1105], with the following paragraph:

In step **710**, the variable Hoff_Flag is set to 1. The method returns to the ~~Initiation~~ Initialization phase.

On page 24, paragraph [1106], with the following paragraph:

In step **712**, the variable Hoff_Flag is set to 0. The method returns to the ~~Initiation~~ Initialization phase.

On page ~~28~~ 27, paragraph [1125], with the following paragraph: SB 1-11-07

In step **1024**, a value of the variable Cand identified by the variable Count is set to 1 and the value of the variable ~~Cand_NS~~ NS_COUNT is incremented by 1. The method continues in step 1028.

On page 29, paragraph [1132], with the following paragraph:

In step **1102**, the value of [[a]] the variable SS_RPC is compared against the T_RPC. If the value of the variable SS_RPC is less than the value of the T_ RPC, the method continues in step **1104**; otherwise, the method continues in step **1106**.

On page ~~30~~ 29, paragraph [1137], with the following paragraph: SB 1-11-07

In step **1112**, the variable Hoff_Flag is set to 1. The method returns to the ~~Initiation~~ Initialization phase.

On page ~~30~~ 29, paragraph [1138], with the following paragraph: SB 1-11-07

In step **1114**, the variable Hoff_Flag is set to 0. The method returns to the ~~Initiation~~ Initialization phase.

On page 30, paragraph [1141], with the following paragraph:

In step **1120**, the AT re-points the DRC to the candidate sector with the highest quality reverse link in accordance with the sector's reverse link's filtered RPC mean. Alternatively, the AT re-points the DRC to the candidate sector that has the highest quality forward link (not shown). The method continues in step 1112.

On page 30, paragraph [1142], with the following paragraph:

In step **1122**, the variable Hoff_Flag is set to 1. The method returns to the ~~Initiation~~ Initialization phase.

On page ~~31~~ 30, paragraph [1144], with the following paragraph: SB 1-11-07

FIG. 13 illustrates a relationship between filtered RPC mean and a forward link de-rating in accordance with this embodiment. If the reverse link filtered RPC mean associated with a particular sector is greater than the T_RPC, the forward link filtered SINR mean associated with the given sector is decreased (de-rated) by a first pre-determined factor (FL_D1). The forward link filtered SINR stays de-rated, until the filtered RPC mean of the particular sector decreases below the second T_RPC_S. Conversely, if the reverse link filtered RPC mean associated with a particular sector is less than the T_RPC_S, the forward link filtered SINR mean associated with the given sector is de-rated by a second pre-determined factor ~~(FL_D1)~~ (FL_D2) until the reverse link filtered RPC mean associated with the particular sector is greater than the [[T_RPC]] T_RPC_S.

On page 31, paragraph [1145], with the following paragraph:

Referring back to **FIG. 10** the above-described hysteresis method affects the mapping of step [[**506**]] **1006**.

On page ~~32~~ 31, paragraph [1147], with the following paragraph: SB 1-11-07

As discussed, in accordance with one embodiment of the communication system of FIG. 1, data transmission on the forward link occurs from one sector to one AT during a time-slot at or near the maximum data rate that can be supported by the forward link and the communication system. At each time time-slot, the sector can schedule data transmission to any of the ATs that received the paging message. The sector uses the rate control information received from each AT in the DRC message to efficiently transmit forward link data at the highest possible rate. Consequently, the scheduling algorithm serves the AT from which the sector received a valid DRC if the DRC from a particular AT has been erased. The scheduling thus prevents degradation in forward link sector throughput as long as the DRC erasure rate from ATs served by the sector

One skilled in the art recognizes that the assignment to different groups has been described as a concept for pedagogical purposes. In an implementation in accordance with one embodiment, the "assignment" occurs as the filtered RPC mean of each sector is evaluated. The combined Message Based DRC Lock and filtered RPC method is described in details below.

On page ~~36~~ 35, paragraph [1168], with the following paragraph: SB 1-11-07

In step **1518**, the DRC erasure rate is compared to the DRC_Erasure_Th1. If the DRC erasure rate is less than the DRC_Erasure_Th1, the method continues in step [[1522]] **1524**, otherwise, the method continues in step [[**1524**]] **1522**.

On page ~~37~~ 36, paragraph [1175], with the following paragraph: SB 1-11-07

Similarly, the Credit Accumulation phase is carried out according to FIG. 10 and accompanying text with the following modification. In step [[**504**]] **1004**, the filtered RPC mean ~~(F_RPC_mean)~~ (RPC_mean) identified by the variable Count is updated. As described, the filtered RPC mean is obtained by filtering received RPC bits by a filter with a pre-determined time constant. Referring to FIG. 14, if the filtered RPC mean fluctuates around the T2_RPC, the sector classification between B1, C1 and B2, C2 changes rapidly, which increases likelihood that a sector, which belongs to B2, C2 is classified as B1, C1 and vice versa. Because the forward link throughput is negatively affected by incorrect classification, in accordance with one embodiment, the transition between the between B1, C1 and B2, C2 is controlled. This can be accomplished, for example, by generating the filtered RPC mean using different time constants for sectors in B1, C1 and B2, C2. Consequently, in accordance with another embodiment, the time constant for sectors in B1, C1 is smaller than the time constant for sectors in [[and]] B2, C2, which results in a contraction of regions B and C without delaying transition from Group 1 to 2.

Beginning on page ~~37~~ 36, paragraph [1176], with the following paragraph: 1-11-07

To carry out the decision to re-point, the AT first ascertains those non-serving sectors that have credits greater than or equal to a ~~per-determined~~ pre-determined threshold (NS_Th). In accordance with one embodiment, the pre-determined threshold is equal to a fraction of the Soft/Softer handoff delay. If at least one of the non-serving sectors satisfies this condition, the

AT re-points the DRC to the sector with the highest credits. In accordance with one embodiment, if two or more non-serving sectors have equal credits, a sector with the highest quality reverse link is selected. The quality of the reverse link is determined in accordance with the reverse link's filtered RPC mean. In another embodiment, if two or more non-serving sectors have equal credits, a sector with the highest quality forward link is selected.

On page ~~38~~ 37, paragraph [1181], with the following paragraph: SB 1-11-07

In step **1606**, the AT re-points the DRC to the candidate sector identified by the variable [[count]] Count that has the highest quality reverse link in accordance with the sector's reverse link's filtered RPC mean. Alternatively, the AT re-points the DRC to the candidate sector identified by the variable [[count]] Count that has the highest quality forward link (not shown). The method continues in step **1612**.

On page ~~39~~ 38, paragraph [1184], with the following paragraph: SB 1-11-07

In step **1612**, the variable Hoff_Flag is set to 1. The method returns to the ~~Initiation~~ Initialization phase.

On page ~~37~~ 38, paragraph [1185], with the following paragraph: SB 1-11-07

In step **1614**, the variable Hoff_Flag is set to 0. The method returns to the ~~Initiation~~ Initialization phase.

On page ~~40~~ 39, paragraph [1191], with the following paragraph: SB 1-11-07

Reverse link quality metric, as measured by the Reverse Link Pilot channel SINR (Ecp/Nt), from sector 1 RL1_Ecp/Nt is 3dB lower than reverse link quality metric from sector ~~1 RL1_Ecp/Nt~~ 2 RL2_Ecp/Nt, therefore, a filtered RPC mean of RL1 = 0.9, a filtered RPC mean of RL2 is 0.1616. The corresponding DRC Erasure Rate of RL1 is 0.8, DRC Erasure Rate of RL2 is 0.1.